



Partner Reported Opportunities (PROs)
For Reducing Methane Emissions

Compressors/Engines ☐
Dehydrators ☐
Pipelines ☐
Pneumatics/Controls ☐
Tanks ☐
Valves ☒
Wells ☐
Other ☐

Inspect & Repair Compressor Station Blowdown Valves

Applicable sector(s):

■ Production ■ Processing ■ Transmission and Distribution

Partners reporting this PRO: Natural Gas Pipeline Company of America

Other related PROs: Test and Repair Pressure Safety Valves, Testing for Fugitive Emissions, Begin DI&M at Remote Facilities

Technology/Practice Overview

Description

Compressor station operations place significant pressure, thermal, and mechanical stresses on blowdown valves. These stresses wear down valve components (e.g. plugs, seals, seats) making them significant methane emission sources.

Blowdown vent stacks are normally elevated and inconvenient to access. As a result, it is difficult to test frequently for gas leakage through the blowdown valves. One partner, however, initiated a practice to annually inspect and repair leaking blowdown valves at compressor stations.

Principal Benefits

Reducing methane emissions was:

■ **A primary justification for the project** ☐ **An associated benefit of the project**

Operating Requirements

Ladders or a bucket-truck may be required to access blowdown vent stacks.

Applicability

This practice is applicable to all sites.

Methane Savings

2,000 Mcf/yr

Costs

Capital Costs (including installation)
None

Operating and Maintenance Costs (Annual)
☐ < \$100 ■ \$100-\$1,000 ☐ > \$1,000

Payback (Years)

■ 0-1 ☐ 1-3 ☐ 3-10 ☐ > 10

Methane Emissions Reductions

The amount of avoided methane emissions is based on EPA's emission factor for transmission compressor station blowdown valves as reported in "Preliminary Review of Natural Gas Star Best Management Practices Emissions Reduction Default Values" (pg. 19). One partner reported saving 3,907 Mcf by repairing 7 valves.

Economic Analysis

Basis for Costs and Savings

Methane savings of 2,000 Mcf/yr were associated with repairing ten station blowdown valves per year at one compressor station.

Discussion

This practice can pay back quickly. The primary consideration for repairing station blowdown valves is to save natural gas. Costs include the labor for 2 operators to test and change a leaking blowdown valve (1 hr per station at \$25/hr) and labor and parts for 1 technician to recondition a defective valve (assume 1 hour at \$25/hr). Travel time to the station is excluded because work will be performed as part of an ongoing inspection and maintenance program. Labor costs are paid out by gas savings and there are no capital equipment costs.